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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/585,453

10/05/2007

Masami Adachi

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SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

NGUYEN, PHONG H

ART UNIT

PAPER NUMBER

3724

NOTIFICATION DATE

DELIVERY MODE

11/26/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

sughrue@sughrue.com
PPROCESSING@SUGHRUE.COM
USPTO@SUGHRUE.COM

Office Action Summary	Application No. 10/585,453	Applicant(s) ADACHI ET AL.	
	Examiner PHONG H. NGUYEN	Art Unit 3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-11 is/are pending in the application.
- 4a) Of the above claim(s) 4,7 and 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6,10 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 October 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/22/2010</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 5, 6, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeshita et al. (4,516,451), hereinafter Takeshita, in view of Kubala (6,230,603), Oldeman (4,922,774) and JP11-179702.

Regarding claims 1 and 10, Takeshita teaches a cutting device comprising:

a blade 60;

a power supply for heating the blade 60 (Fig. 6); and

a drive part (42, 52, 53) for moving the blade in a thickness direction of a workpiece.

See Figs. 2 and 6.

Takeshita does not teach running an electric current through the blade to cause the blade to heat.

Kubala teaches heating a cutting blade 10 by running an electric current through the blade for more efficient and better quality cutting. See Fig. 2.

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Therefore, it would have been obvious to one skilled in the art at the time the invention was made to run an electric current through the blade in Takeshita for more efficient and better quality cutting.

Takeshita teaches the invention substantially as claimed except for the blade being coated with a low friction material.

Oldeman teaches coating a cutting blade with a low friction material for making smooth cuts. See col. 4, 62 - col.5, line 13.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to coat the cutting blade of Takeshita a low friction material for making smooth cuts as taught by Oldeman.

The modified cutting device of Takeshita teaches the invention substantially as claimed except for the low friction material being fluororesin.

JP11-179,702 teaches coating a cutting blade with a low friction material such as fluororesin for making smooth cuts. See the Abstract.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to coat the modified cutting blade of Takeshita a layer of fluororesin for making smooth cuts.

Regarding claim 5, a cutting condition changing part is best seen in Figs. 2 and 8 in Takeshita.

Regarding claim 6, the blade 60 is longer than the width of the workpiece.

Regarding claim 11, Takeshita teaches the invention substantially as claimed except for the thin blade having a thickness from 1.0-3.0mm. It would have been obvious to one having

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ordinary skill in the art at the time the invention was made to make the thin blade having a thickness from 1.0-3.0mm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeshita et al. (4,516,451), hereinafter Takeshita, in view of Kubala (6,230,603), Oldeman (4,922,774) and JP11-179702 as applied to claim 1 above, and further in view of Frenkel et al. (5,429,163), hereinafter Frenkel.

The modified cutting device of Takeshita teaches the invention substantially as claimed except for a non-contact thermometer and a controller for controlling the electric current passing through the blade on the basis of a temperature detection signal from the non-contact thermometer.

Frenkel teaches a non-contact thermometer (6, 23) and a controller (12, 22A, 22B) for controlling an electric current passing through a blade on the basis of a temperature detection signal from the non-contact thermometer. See Fig. 6 and 7.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to provide a non-contact thermometer and a controller as taught by Frenkel to the modified cutting device of Takeshita so that one can automatically control the temperature of the cutting blade.

Response to Arguments

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4. Applicant's arguments filed 09/22/2010 have been fully considered but they are not persuasive.

The Applicant argues that Kurita does not teach a low friction material such as fluororesin. This argument is not persuasive. First of all, low friction property of fluororesin is an inherent property. Therefore, whether it is stated or not, the low friction property is always associated with fluororesin. Furthermore, Kurita teaches providing a layer of fluororesin to prevent sap adherence on a blade and frictional resistance property of fluoroesin. Therefore, Kurita teaches fluororesin being a low friction material.

The Applicant argues that Kurita teaches providing fluororesin on the split-face portion 5 but not the cutting part 1. This argument is not persuasive. Claim 1 calls for coating the thin blade a layer of fluororesin. Claim 1 does not clearly state whether the entire thin blade is provided with the layer fluororesin or only a portion of the blade is provided with the layer fluororesin. Therefore, if one skilled in the art strictly applies the teaching of Kurita which is to apply the fluororesin layer partially on the blade, Kurita reads on claim 1. If the Applicant would argue that the fluororesin layer should be applied on the entire blade, then it is not beyond the knowledge of one skilled in the art to provide the fluororesin layer on the entire blade to increase the smoothness on the surface of the blade.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHONG H. NGUYEN whose telephone number is (571)272-4510. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on 571-272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Phong H Nguyen/

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November 20, 2010